Autoadapt
for your independence

Turny Evo

Autoadapt | Seat lift

EN Installation manual

Thank you for choosing a

Turny Evo from Autoadapt!

The manual that follows is an integral, important part of the product, providing you with information on how to perform accurate and safe installation of the product. Please read through the manual carefully before starting your work.

If you have any questions about your customer's adaptation, please feel free to contact Autoadapt. Your feedback is important to us. It helps us in our work of continuously improving our product and its installation. You can find more information about us and our range of car adaptation solutions by visiting www.autoadapt.com.

Once again, thank you for placing your confidence in our products!

Autoadapt

Safe vehicle adaptation solutions

For your safety Autoadapt products are designed and tested according to current directives and standards.

Installation

4 Fit wiring in the car
4 Install the bracket in the car
5 Connect Turny Evo
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7 Install Turny Evo on the bracket
7 Mount seat
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Installation

1. Fit wiring in the car

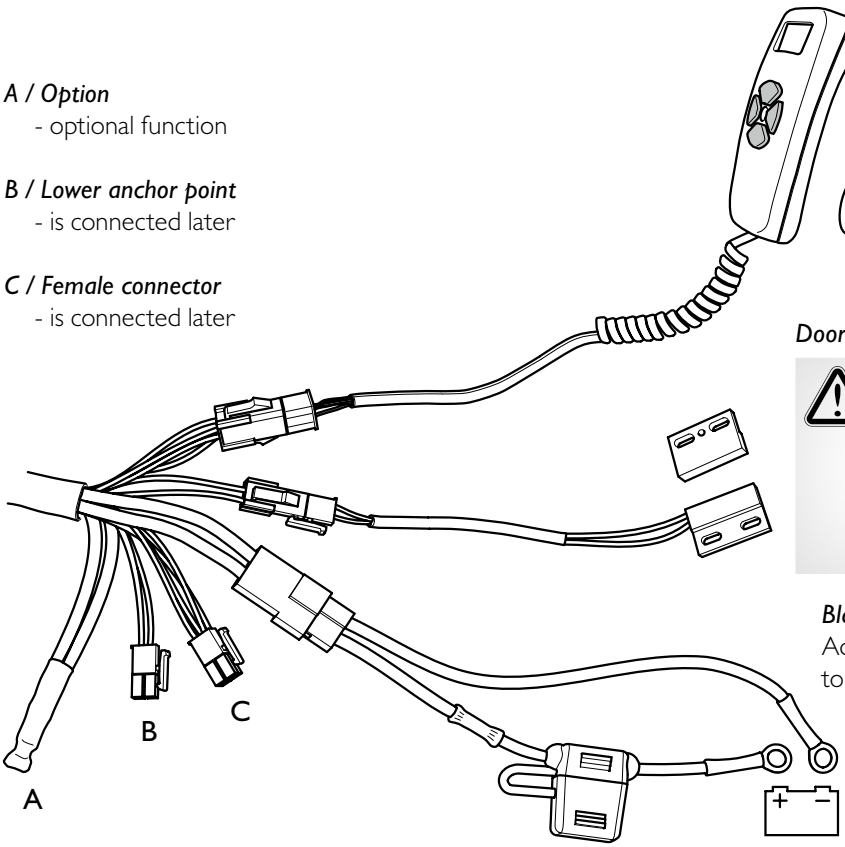
Fit wiring for the hand held control, door switch, ground and 12V. The illustration below shows the associated connection points in the unit.

For a complete wiring diagram, see the back of the manual.

A / Option
- optional function

B / Lower anchor point
- is connected later

C / Female connector
- is connected later



Hand held control
The small magnet is for hanging up the hand held control. Position in a suitable place in the car's panel and tightly screw from the back.

Door switch

In order for the Turny Evo to go into sleep mode, the magnetic door switch needs to be installed. Failure to do so, will result in the unit consuming 180 mA instead of 0,7 mA. Follow the instructions supplied with the kit.

Black cable
Adjust the length of the cable and connect to the negative pole on the car battery.

Red cable 12V
Adjust the length of the cable and connect to the positive pole on the car battery. Wire in the supplied fuse in close proximity to the car battery.

Note!
Next to the swivel motor there is a rolled cable. This cable is for a future accessory and is not used at present.

2. Install the bracket in the car

To install Turny Evo a bracket between the product and the floor of the car is required. We recommend a car specific bracket. In cases where there is no car specific bracket, a universal bracket is available. For a range of brackets, please see *dealerweb.autoadapt.com*

To install the bracket, follow the relevant instructions that accompany the bracket.

3. Connect Turny Evo

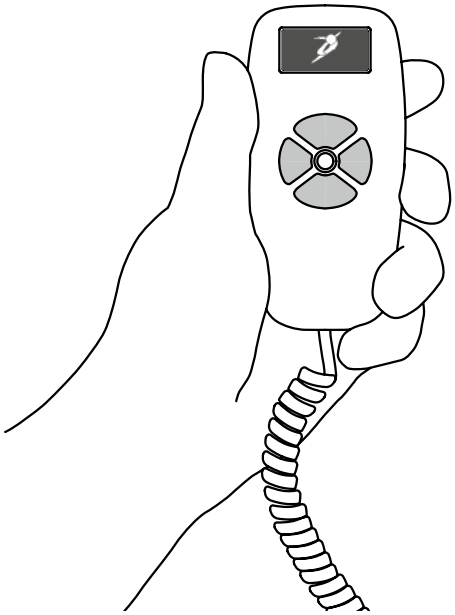
Put Turny Evo on top of the bracket in the car and connect the wiring for the hand held control, door switch and 12V to the unit. Upon delivery Turny Evo is preprogrammed enabling it to be run once the hand held control is connected.

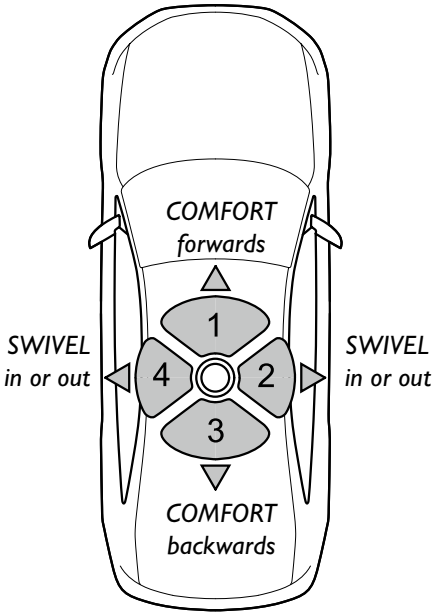
Manoeuvre carefully. Before Turny Evo has been programmed with an adjusted path there is a risk of damage to both unit and car.

Optional function buttons light up GREEN.

Hold the selected button down. When the seat reaches its preprogrammed end position, it will stop automatically. To stop movement, release the button.

Turny Evo's location in the vehicle on the right or left side determines the functions of buttons 2 and 4.

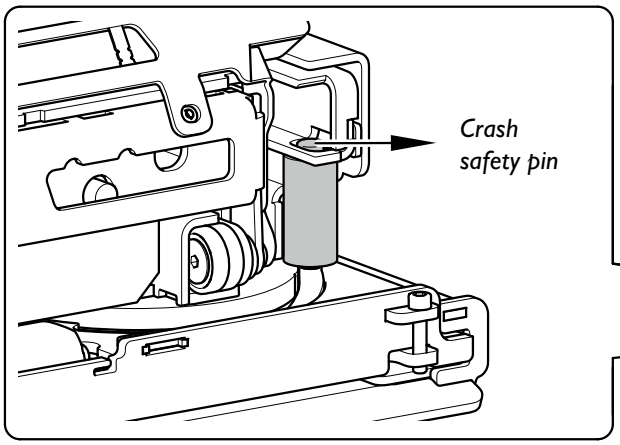


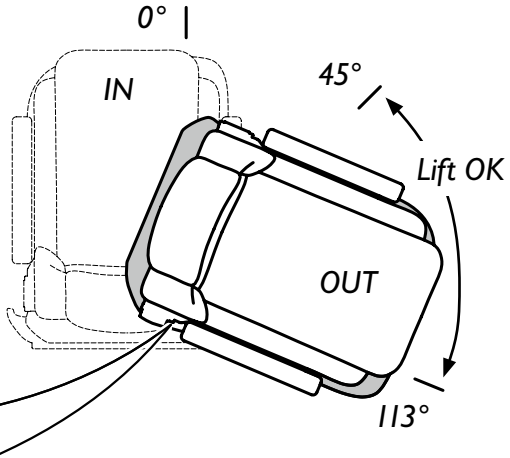


4. Activate the emergency-mode operation menu to install

To access all attachment points for installation Turny Evo must be emergency controlled. Be careful when manoeuvring the unit back into the car so that the lift is done correctly, see below.

A crash safety pin will lock the seat in the correct position when the lift is performed correctly. If the lift is performed when the seat is swivelled out 0-45 degrees this causes damage to the unit and affects crash safety.

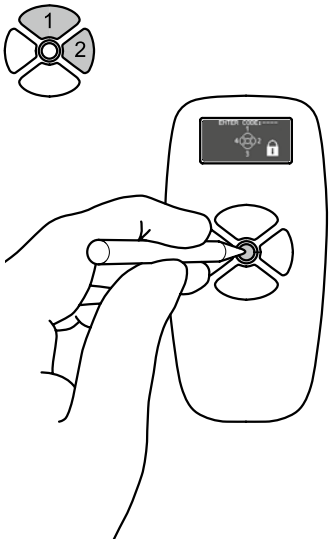




The illustration on the left shows a fully swivelled in Turny Evo where the crash safety pin has locked the seat in the correct position.

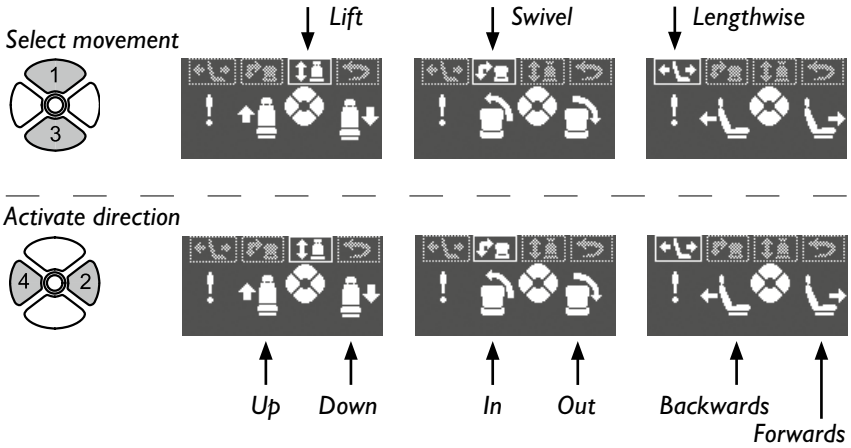
4.1 Activate the emergency-mode operating menu

Hold down the yellow button until the picture ***"enter code"*** is displayed. Then enter the code 1, 1, 1, 2



4.2 Manoeuvre Turny Evo

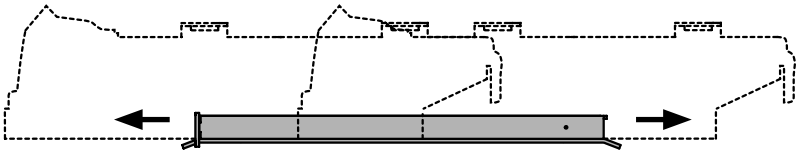
Switch between movements and directions to run the unit. Note that the symbols for ***"in"*** and ***"out"*** are laterally inverse in a left-side Turny Evo.



During emergency-mode operation all the buttons will flash RED to indicate that Turny Evo is not following its preprogrammed path and that some safety functions are disconnected.

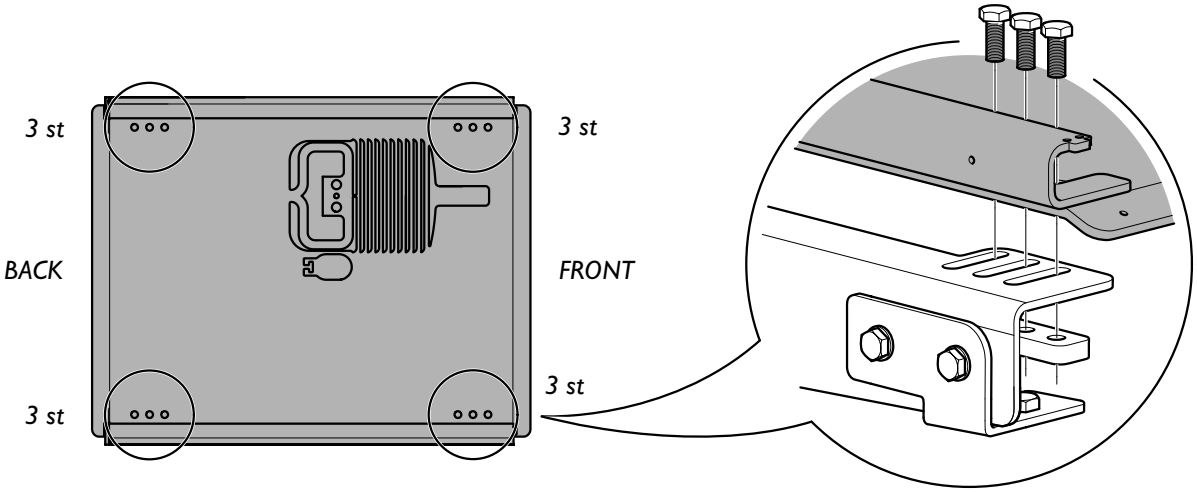
5. Install Turny Evo on the bracket

Run the unit forwards and backwards to reach the attachment points on the base plate. Install Turny Evo using the nuts and bolts supplied with the bracket.



Run the unit backwards to uncover the attachment points for the bracket at the front.

Run the unit forwards to uncover the attachment points for the bracket at the rear.

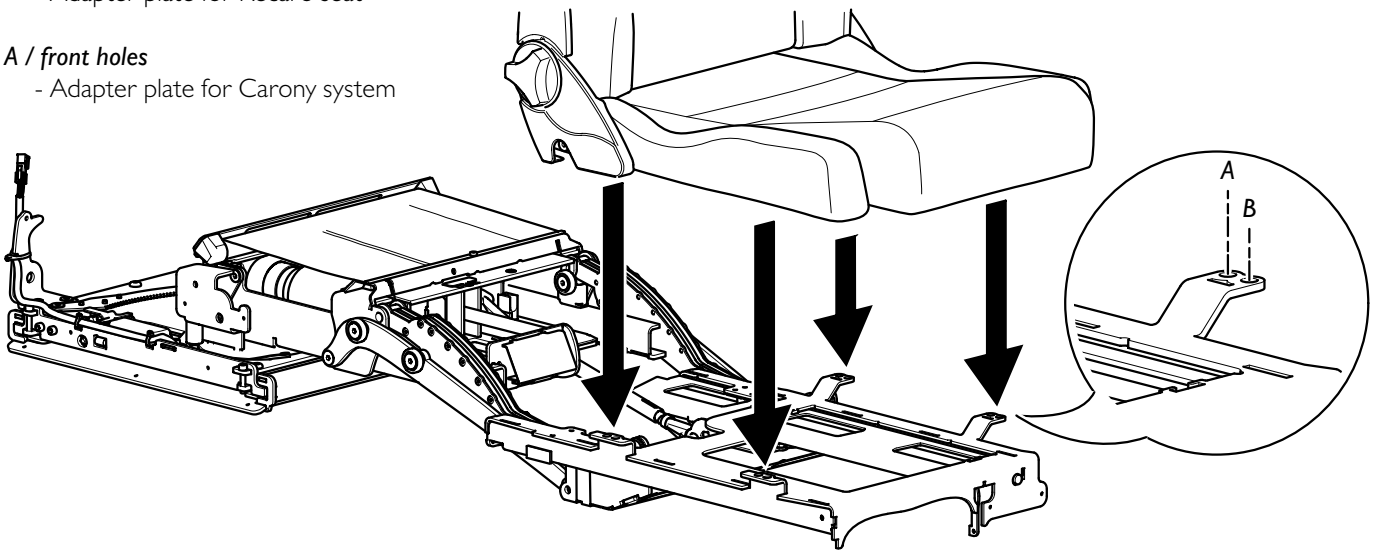


6. Mount seat

Swivel out and lower Turny Evo slightly to reach the attachment points for seat, belt and then covers. Fit the seat using the nuts and bolts supplied with the seat.

A / rear holes
- BEV seat
- Compact seat
- Adapter plate for Recaro seat

A / front holes
- Adapter plate for Carony system



7. Mount seat belt

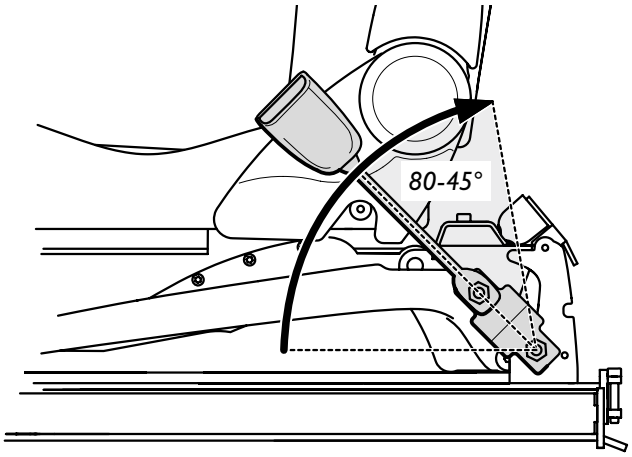
Always fit the female connector on Turny Evo. To avoid the risk of the seat belt injuring the user or being torn off in a collision, the female connector must move freely and not press against the user's hip. The seat belt webbing should not press against Turny Evo.

Attach the lower anchor point for the seat belt to the original attachment if possible. Mount on Turny Evo in cases where it does not work.

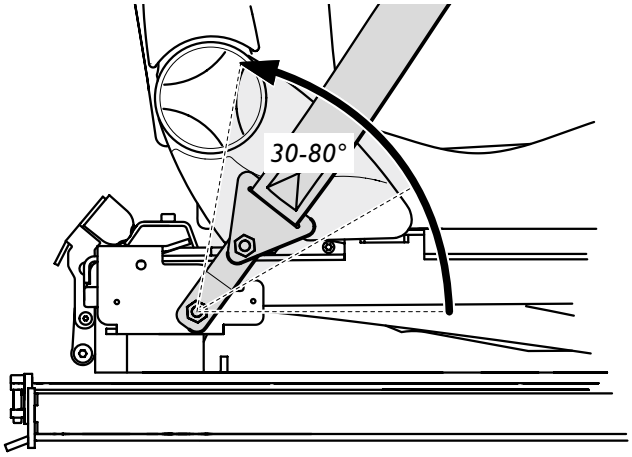
Always strive to achieve the following seat belt geometry as illustrated below. Specified degrees are obtained from the legal requirement /

ECE R-14, Revision 5, seat belt attachment points

Female connector



Lower anchor point



If the original belt has any kind of belt pretensioner or switch, the wiring must be adapted for connecting to the Turny Evo. The illustration on the next page shows a right-swivelling Turny Evo.

7.1 Cut off original connectors

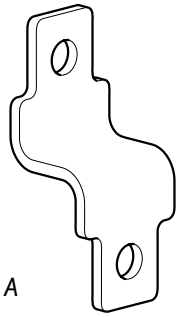
Cut off original connectors on lower anchor point, female connector and associated wiring on the floor under the seat.

7.2 Wire in new connections

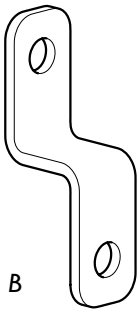
Replace original connections according to the illustration on the next page with supplied wire in connections. Ensure that the cable colours on the wire in connections match the same cable on Turny Evo.

7.3 Mount belt

Mount according to the illustration on the next page using supplied z-iron, nuts, bolts. Use a washer if the hole pattern in OEM belt attachment is too big for the nut.



A *Energy bracket* *x 1*

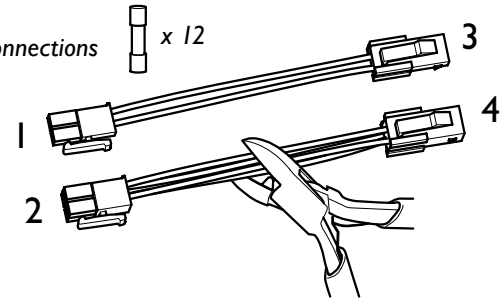


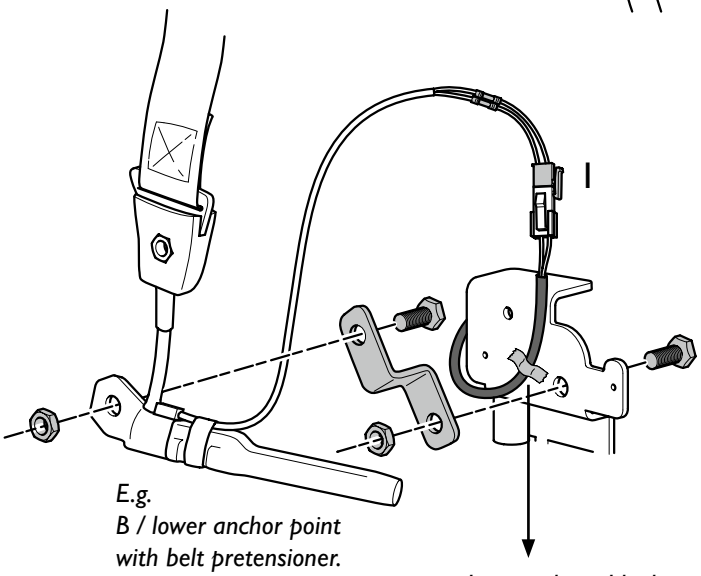
B *Energy bracket* *x 1*

C		*7/16 UNF x 22*	*x 4*
D		*7/16 UNF*	*x 4*
E		*12.5x26x2*	*x 2 (if necessary)*

To ensure the crashworthiness of the Turny Evo, the screws for mounting the energy bracket must be fitted from the inside as illustrated below.

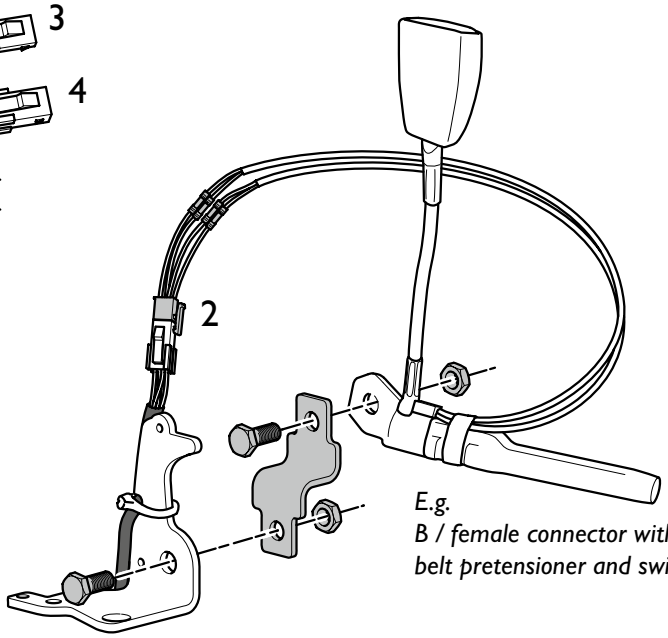
Wire in connections *x 12*





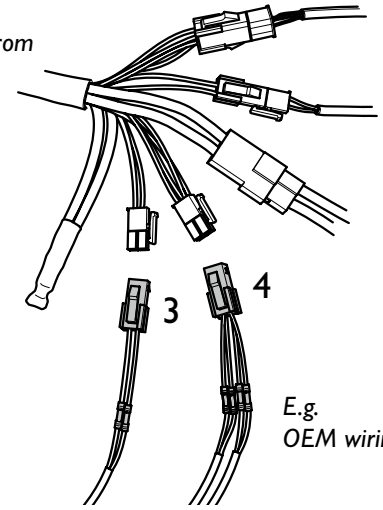
E.g.
B / lower anchor point with belt pretensioner.

Loosen the cable, located on the lift motor and attach it to the plate.



E.g.
B / female connector with belt pretensioner and switch.

Wirning from Turny Evo.



E.g.
OEM wiring under seat.

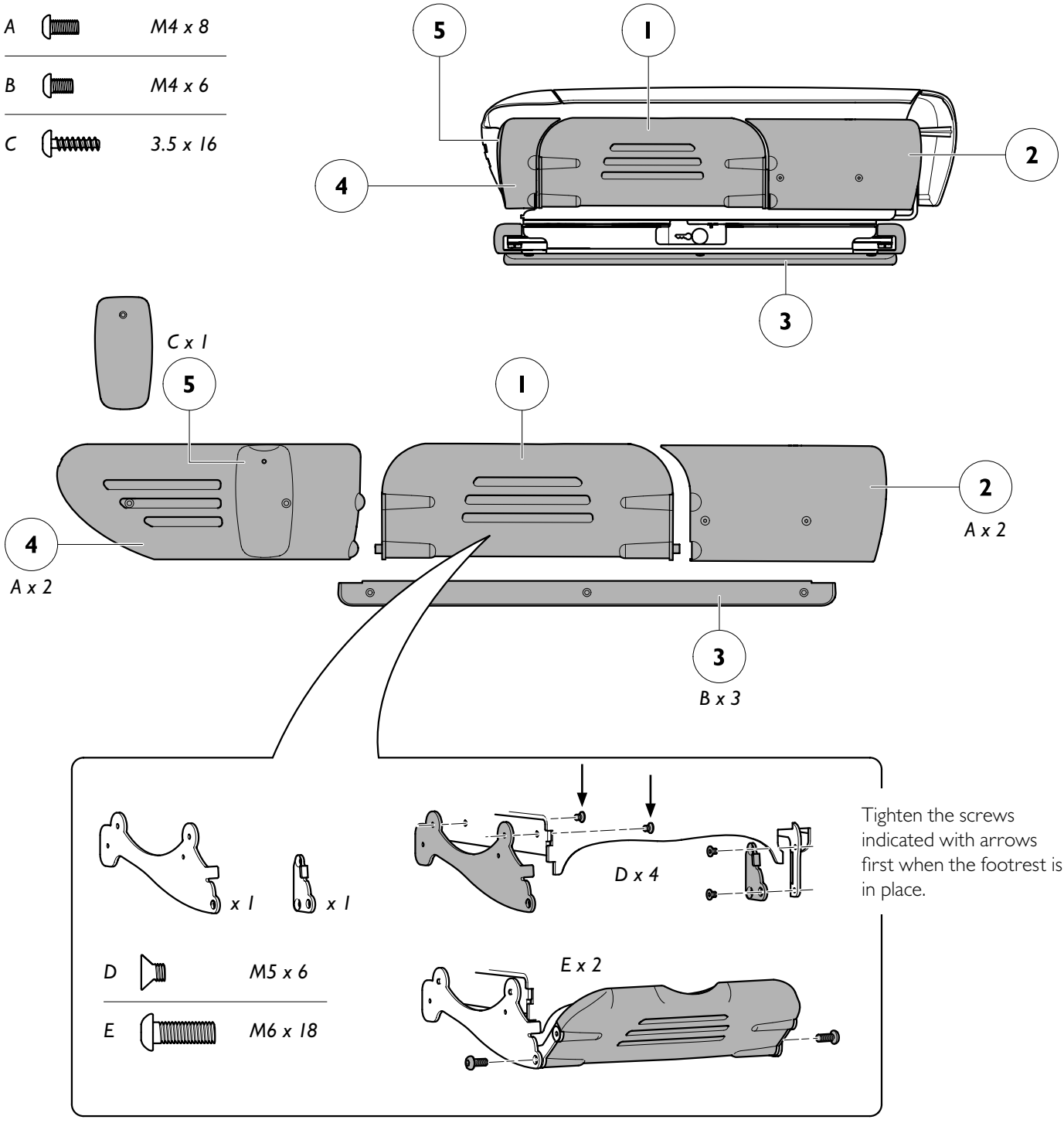
8. Mount footrest and covers

Note! To reach all attachment points the Turny Evo must be swivelled out and lowered slightly. The illustration below shows the unit fully swivelled in to more easily show the location of the covers.

MODEL RIGHT

Foot rest and front covers, mount in numerical order

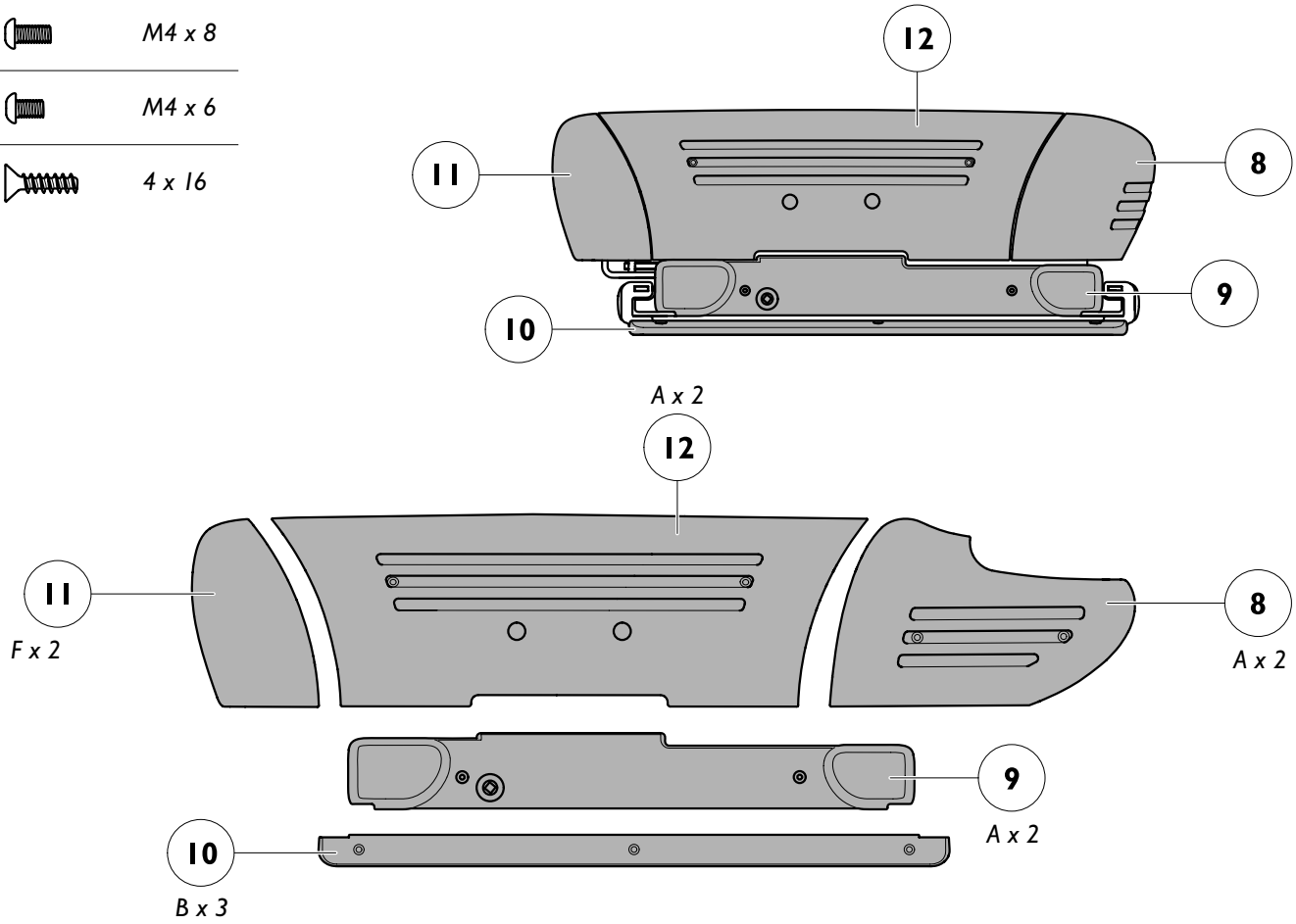
A		*M4 x 8*
B		*M4 x 6*
C		*3.5 x 16*



Tighten the screws indicated with arrows first when the footrest is in place.

MODEL RIGHT
Rear covers, mount in numerical order

A		*M4 x 8*
B		*M4 x 6*
F		*4 x 16*

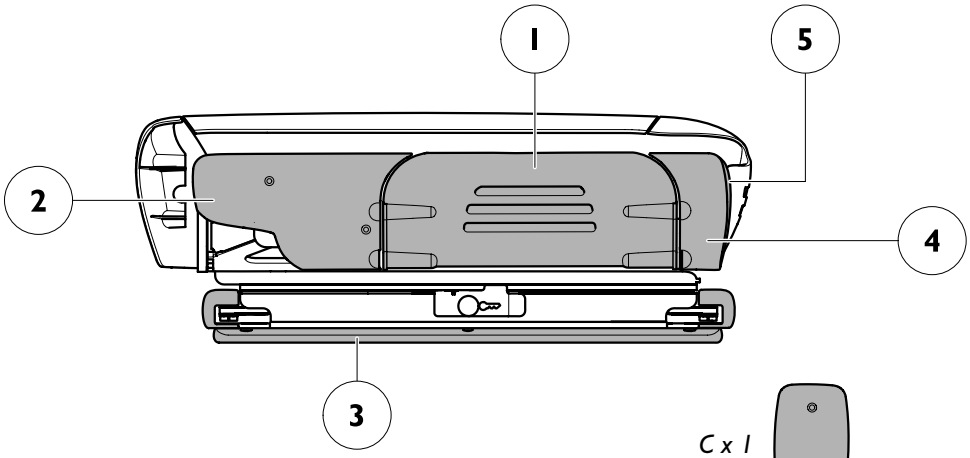


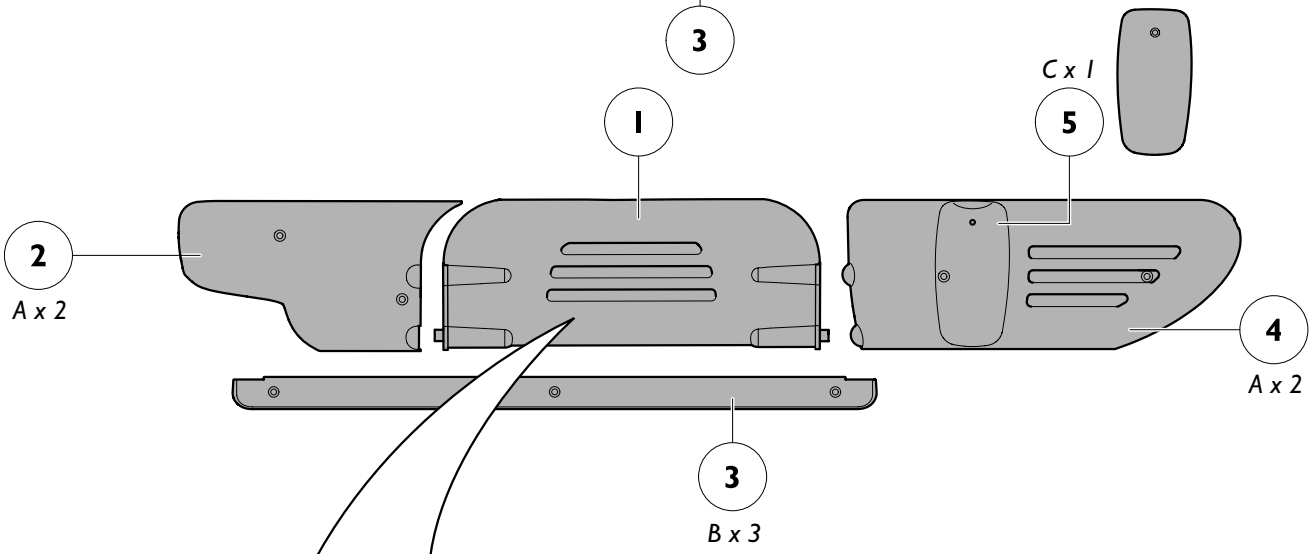
Note! To reach all attachment points the Turny Evo must be turned out and lowered slightly. The illustration below shows the unit fully swivelled in to more easily show the location of the covers.

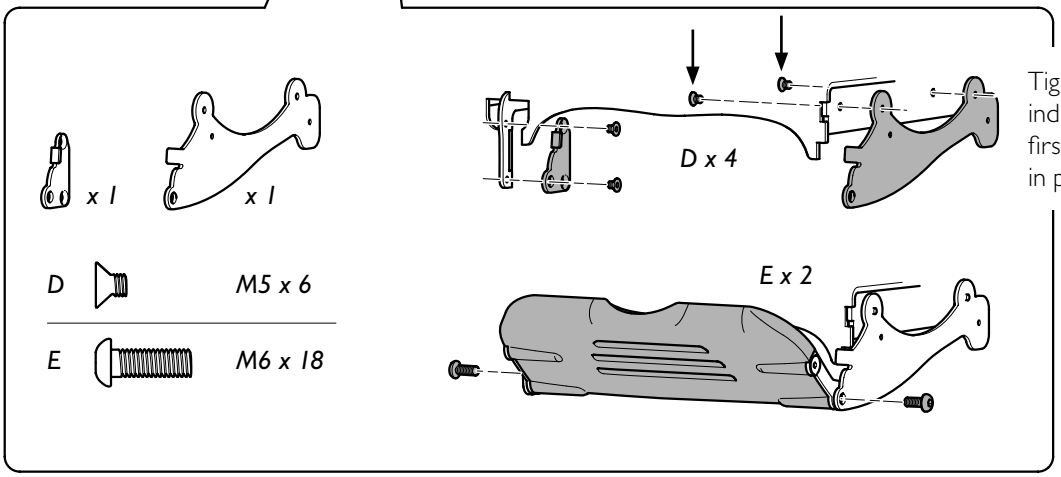
MODEL LEFT

Foot rest and front covers, mount in numerical order

A		*M4 x 8*
B		*M4 x 6*
C		*3.5 x 16*



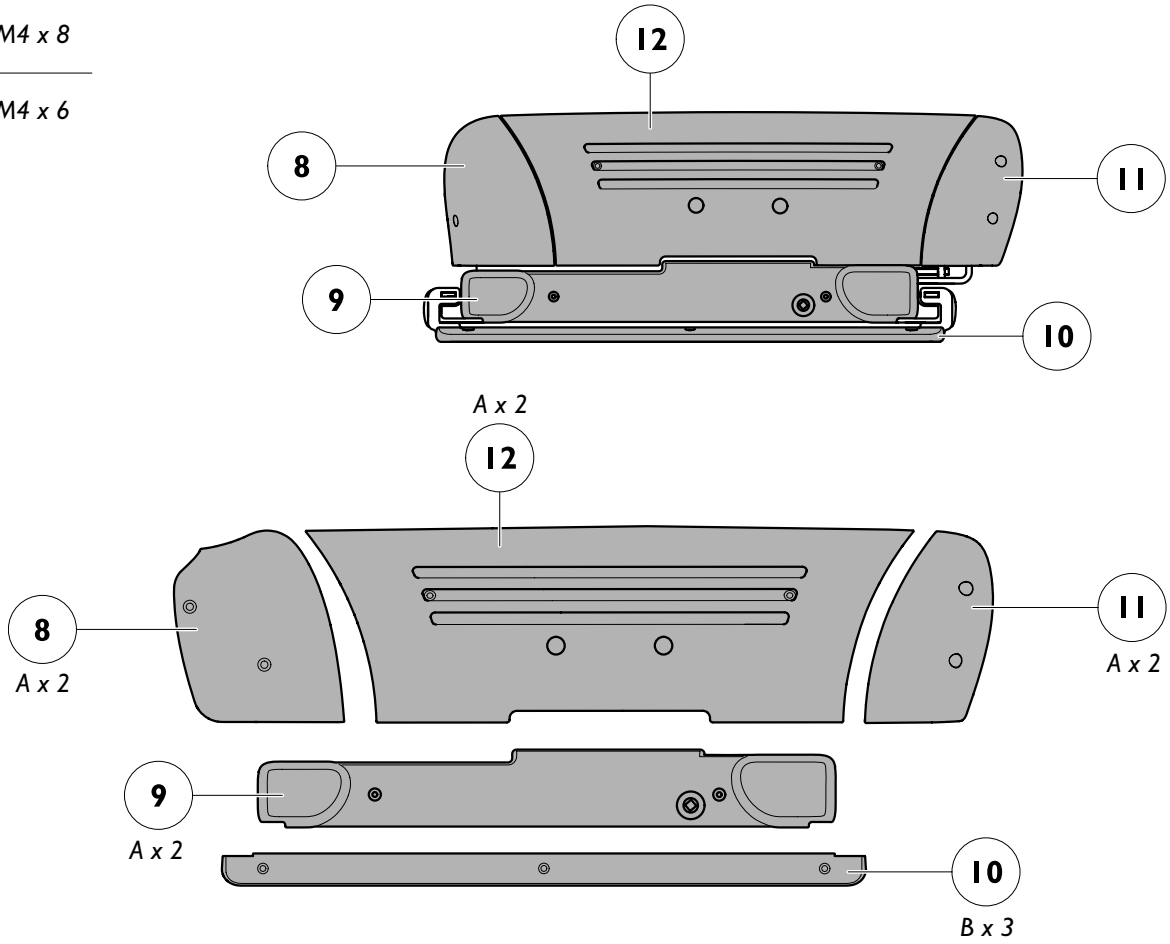




Tighten the screws indicated with arrows first when the footrest is in place.

MODEL LEFT
Rear covers, mount in numerical order

A		*M4 x 8*
B		*M4 x 6*

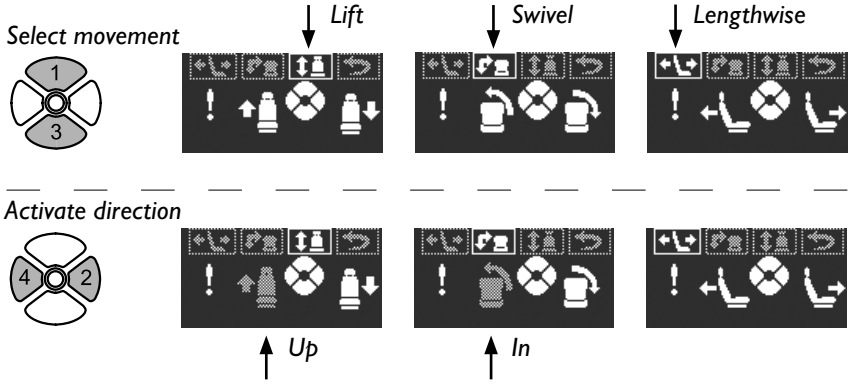


9. Exit the emergency operation menu

When the installation has finished the Turny Evo should be again put into normal operating mode. To return to normal operating mode the criteria in paragraphs 9.1 and 9.2 must be met.

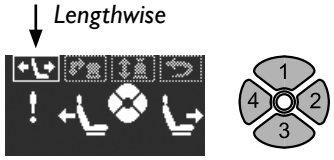
9.1 Swivel the seat in

The seat must be lifted all the way up and swivelled all the way in. Switch between movements and directions until the ***"up"*** and ***"in"*** symbols have greyed out. Note that the symbol for ***"in"*** is laterally inverse in a left-side Turny Evo.



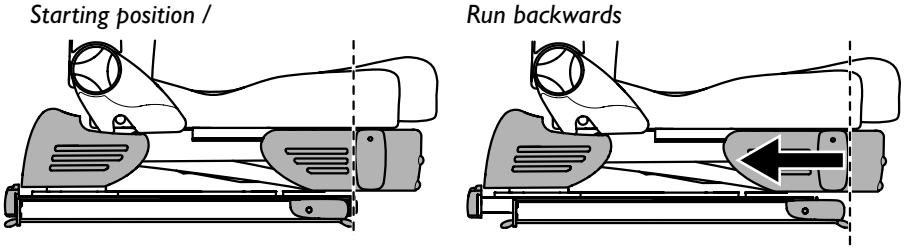
9.2 Exit the emergency operation menu

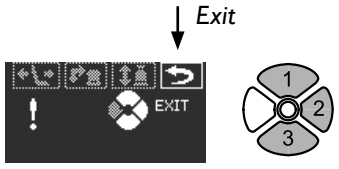
The seat must back over the starting position for the programming. A clicking sound can be heard when the seat passes over this position.



Press 1 or 3 and select ***"lengthwise"***. Run the seat to the specified starting position by pressing 2 or 4 for ***"forwards"*** or ***"backwards"***.

Press 4 for ***"backwards".*** Run the seat backwards until the ***"exit"*** symbol lights up. If the seat stops before ***"exit"*** lights up you can override the system by forcing the seat backwards by holding in button 4 for ***"backwards"*** for four seconds. If the ***"exit"*** does not light up step 2 may have to be repeated.





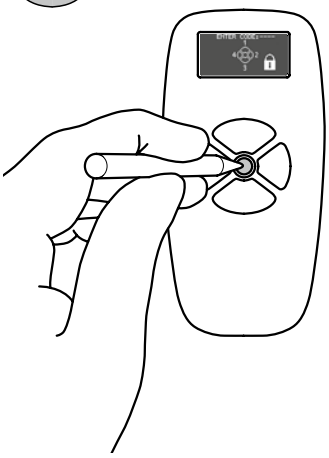
Press 1 or 3 and select ***"exit"***.
Press 2 to confirm ***"exit"***. Turny Evo is now back in its normal operating mode.

If this screen is displayed the criteria to exit the system has not been achieved. Go back and do 9.1 again and then step 9.2.
Press 1 or 3 to select the main menu at the top.

10. Programme Turny Evo

10.1 Activate the programming menu

Hold down the yellow button until the ***"enter code"*** screen is displayed. Then enter the code 1, 2, 3, 4



When programming all the buttons will flash RED to indicate that Turny Evo is not following its preprogrammed path and that certain safety functions are disconnected.

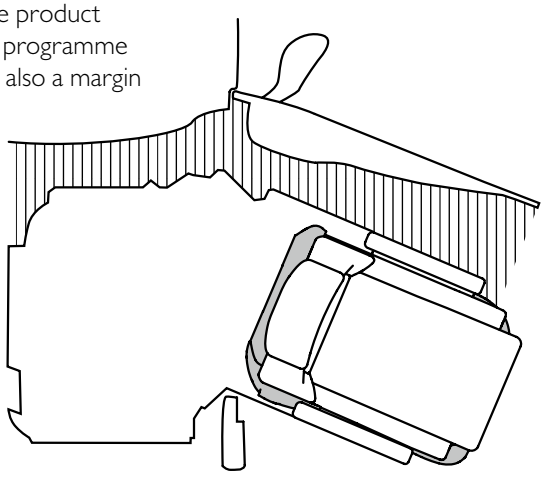
10.2 Programme movement paths

Turny Evo has three motors, a lengthwise, swivelling and lifting motor. These motors must be programmed to create two separate movement paths for the seat, a ***"comfort"*** and a ***"swivel out"***.

The movement path ***"comfort"*** is the lengthwise path that the seat follows when the car door is closed. The movement path ***"swivel out"*** is the combined swivelling and lifting path that the seat follows when the car door is open.

Programme the swivel and lift movement as close as possible to the B pillar to maximise the legroom. The programmed path can vary by +/- 5 mm. Programme with an approx. 15 mm margin to prevent damage to the product and car. If you transfer to and from Turny Evo using a wheelchair, programme so that the seat stays below the wheelchair's seat height. There is also a margin to cope with transferring on uneven surfaces.

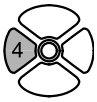
Use ***"gradually swivel out"*** first to achieve a gentle, smooth movement path. At the same time, always strive to keep the programming simple with as few steps as possible for the same reason. Fewer steps also minimises the risk of errors arising in the program. When first programming it can be difficult to achieve the optimal path. There is therefore the ability to save programming at any time and then directly go into editing mode to do any fine tuning required.



B pillar

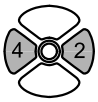
Program movement path, comfort

1



Confirm starting point.
Press 4 for ***"backwards"*** until the screen 2 comes up.

2

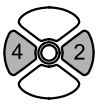


Correct starting position.
Use 2 and 4, ***"forwards"*** and ***"backwards",*** to run to the desired front end position.
(When screen 3 comes up it is possible to save the end position)

3

Press 3 to ***"save"*** and continue programming.
(Screen 4 comes up)

4

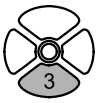


Use 2 and 4, ***"forwards"*** and ***"backwards"***, to run to the desired rear end position.
(When screen 5 comes up it is possible to save the end position)

Tips!

The rear end position is the starting position for ***"swivel out"*** below. Mark this starting position with a piece of tape. This marking can be useful in the event of any editing of the ***"swivel out"*** path.

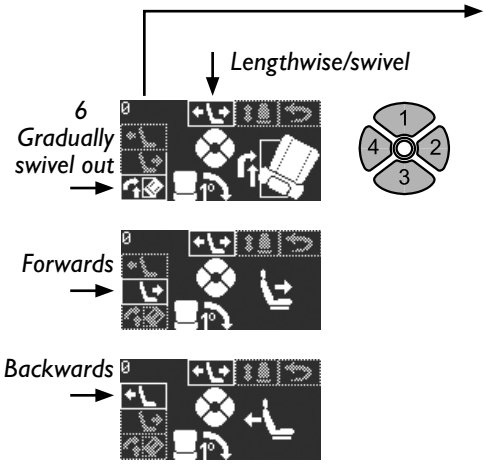
5



Press 3 to ***"save"*** and continue programming. ***(Screen 6 comes up)***

Program movement path, swivel out

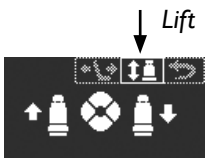
Switch between screen 6 and 7 to program this path.



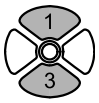
The figure in the left corner shows how many degrees the seat is swivelled out. The seat must be swivelled out 45 degrees before lifting is possible.

Press 1 to select in the main menu at the top.
Press 2 to activate selected direction (displayed as a large symbol to the right of the screen).
Press 3 for ***"sequentially swivel out"*** (+1° at a time).
Press 4 to select direction ***"gradually swivel out", "forwards"*** or ***"backwards"***.

"Gradually swivel out" is a combined swivel and forward movement. We recommend first using this swivel first to achieve a gentle, smooth movement path.



Press 1 or 3 to select the main menu at the top.
Press 2 for ***"down"***.
Press 4 for ***"up"***.



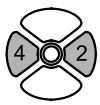
Press 1 to select in the main menu at the top.
Press 3 to save and exit from the programming mode. Turny Evo is now back in its normal operating mode.

Edit movement path, comfort
The front end position allows you to edit and save separately, steps 9-11. To edit and save the rear end position, steps 12-13, editing of the front end position is required first.

9

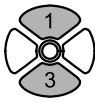
Run the seat in normal operating mode and swivel the seat fully into the car. Activate the programming menu. Hold down the yellow button in the middle of the hand held control until the ***"enter code"*** screen is displayed. Then enter the code 1, 2, 3, 4 ***(Screen 10 comes up)***

10



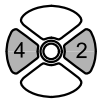
Use 2 and 4, ***"forwards"*** and ***"backwards",*** to run to the desired front end position.
(When screen 11 comes up it is possible to save the new end position)

11



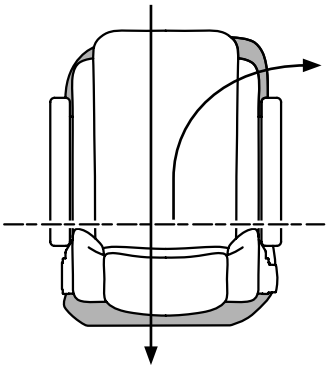
Alternative A - Press 1 to ***"save"*** and exit from the programming mode.
Turny Evo is now back in its normal operating mode.
Alternative A - Press 3 to ***"save and continue"*** and program rear end position.
(Screen 12 comes up)

12

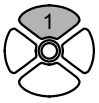


Use 2 and 4, ***"forwards"*** and ***"backwards"***, to run to the desired rear end position.
(When screen 13 comes up it is possible to save the new end position)

The rear end position must be programmed behind the starting position for ***"swivel out"***. If the end position is programmed in front of the starting point, it will not be possible to manoeuvre the seat and the programming must be done again.


Movement path "swivel out"
Starting point "swivel out"
This starting position was previously marked with a piece of tape in the programming.
Rear end position "comfort"

13



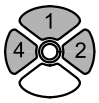
Press 1 to ***"save"*** and exit from the programming mode.
Turny Evo is now back in its normal operating mode.

Edit movement path, swivel out

14

It is possible to begin editing from any point on the path. If the first part of the programming is good you do not need to program the whole path. Swivel out in normal operating mode to the point from which new programming is preferred to be done. Activate the programming menu. Hold down the yellow button in the middle of the hand held control until the ***"enter code"*** screen is displayed. Then enter the code 1, 2, 3, 4

15



Press 2 for ***"continue"***. Programme new swivel and lift, see illustration 6-8.
Press 1 for cancel and exit.
Press 4 to directly enter the emergency operation menu.

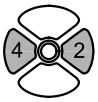
11. Update the software

To update the software in the unit a new hand held control with the new program version is required. Open the car door where Turny Evo is installed and ensure that the hand held control lights up. Replace the existing hand held control with the new one. The door must be open until step 3 below.

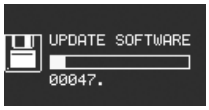
1

Activate the programming menu. Hold down the yellow button in the middle of the hand held control until the screen ***"enter code"*** is displayed. Then enter the code 4, 3, 2, 1 ***(Screen 2 comes up)***

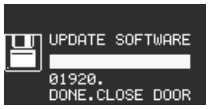
2



Press 2 for cancel and exit.
Press 4 for starting the update.

3 

Update in progress.

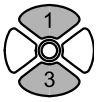
4 

Update finished.
Close the door and open again. ***(Screen 4 comes up)***

5

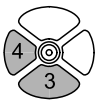
If Turny Evo is installed on the right side of the car, it is now possible to start programming movement paths, see chapter 10. If Turny Evo is installed on the left side of the car you must inform the system about this, see next step below.

6



Activate the programming menu. Hold down the yellow button in the middle of the hand held control until the ***"enter code"*** screen is displayed. Then enter the code 1, 1, 1, 3 ***(Screen 6 comes up)***

7



Press 4 for ***"continue"*** installation.
Press 3 for "***OK***". ***(Screen 7 comes up)***

8

Start programming of movement paths, see chapter 10. Note that the choice of installation ***"left"*** is only saved if programming is done in direct connection to the choice. If this is not done in direct connection you must go in and select the ***"left"*** installation again.

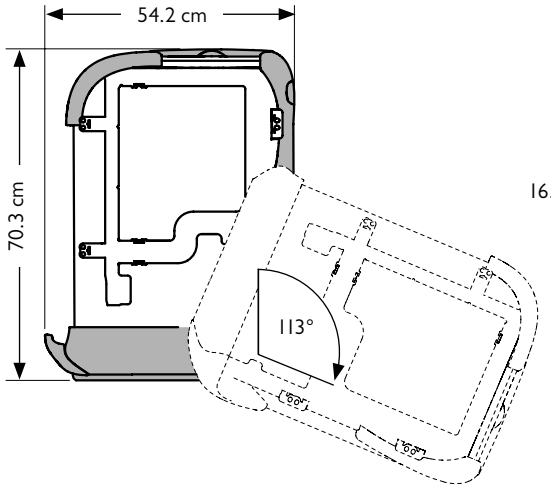
12. Troubleshooting

Warnings/error messages		Recommended action
	Warning, the backrest is reclined too far. Lifting movement out is stopped. Lift up is still possible.	Raise the backrest. Raise the seat again if it is difficult to get to the knob.
	Warning, Incomplete seat swivel-in. Turny Evo is not in a crash-safe position. The symbol is laterally inverse on a left-side Turny Evo.	Swivel the seat all the way in.
	Low battery charge.	Charge the vehicle battery.
	1. Hand held control spiral-haped cable break. 2. Connection problems between the hand held control and the circuit board.	1. Replace the cable. 2. Contact your installation technician.
	1. Swivel motor blocked. 2. Swivel motor pulse generator error.	1. Check that there are no obstructions. 2. Check the connector to ensure that no cables are loose. 3. Follow the emergency operation instructions. Contact your installation technician if the fault persists.
	1. Lift motor blocked. 2. Lift motor pulse generator error	
	1. Lengthwise adjustment motor blocked. 2. Lengthwise adjustment motor pulse generator error.	
	Swivel motor pinch protection activated.	When encountering an obstruction, Turny Evo will stop and back a little. Remove the obstruction and try again.
	Lift motor pinch protection activated.	
	Lengthwise adjustment motor pinch protection activated.	
	Cable break or limit switch for the swivel motor out of service.	Follow the emergency operation instructions. Contact your installation technician if the error persists.
	Cable break or limit switch for the lift motor out of service.	
	Cable break or limit switch for lengthwise adjustment motor out of service.	

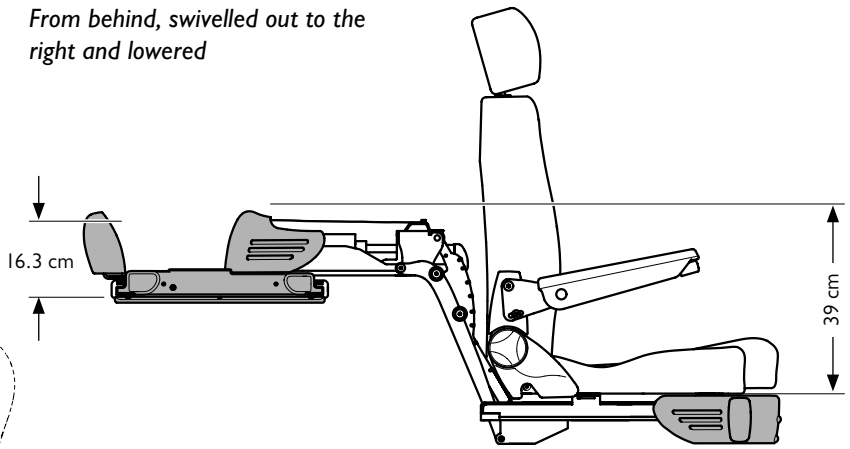
Warnings/error messages		Recommended action
	Swivel motor overloaded.	Make sure there are no obstructions and try again with an empty seat. Contact your installation technician if the error persists.
	Lift motor overloaded.	
	Lengthwise adjustment motor overloaded	
	Swivel motor switch activated in wrong position.	Follow the Emergency Operation with Hand Control instructions to reset Turny Evo's start position. Contact your installation technician if the error persists.
	Lift motor switch activated in wrong position.	
	Lengthwise adjustment motor switch activated in wrong position.	
	Turny Evo has lost its position.	Follow the Emergency Operation with Hand Control instructions to reset Turny Evo's start position. Contact your installation technician if the error persists.

Technical specification

From above, swivelled out to the right



From behind, swivelled out to the right and lowered

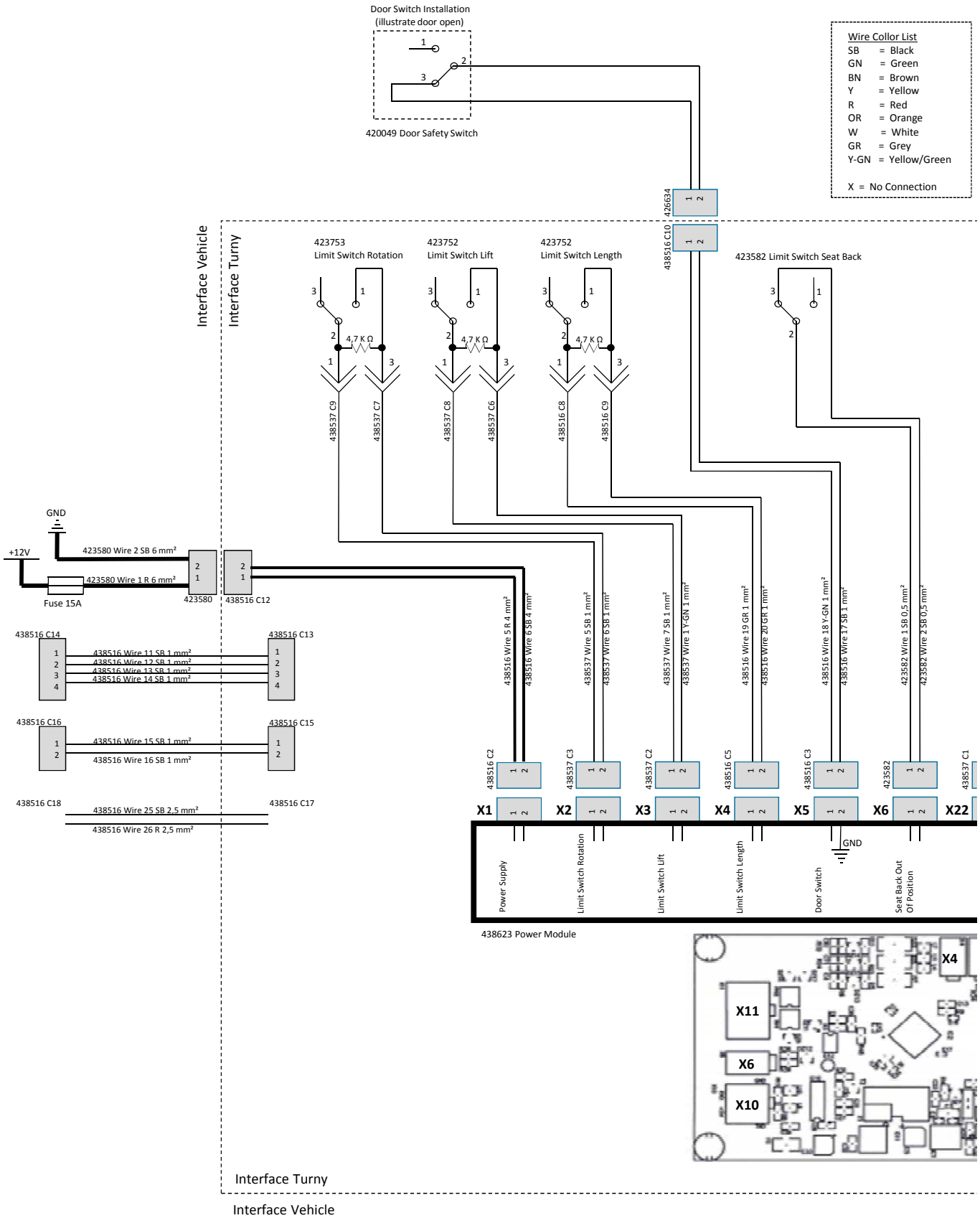


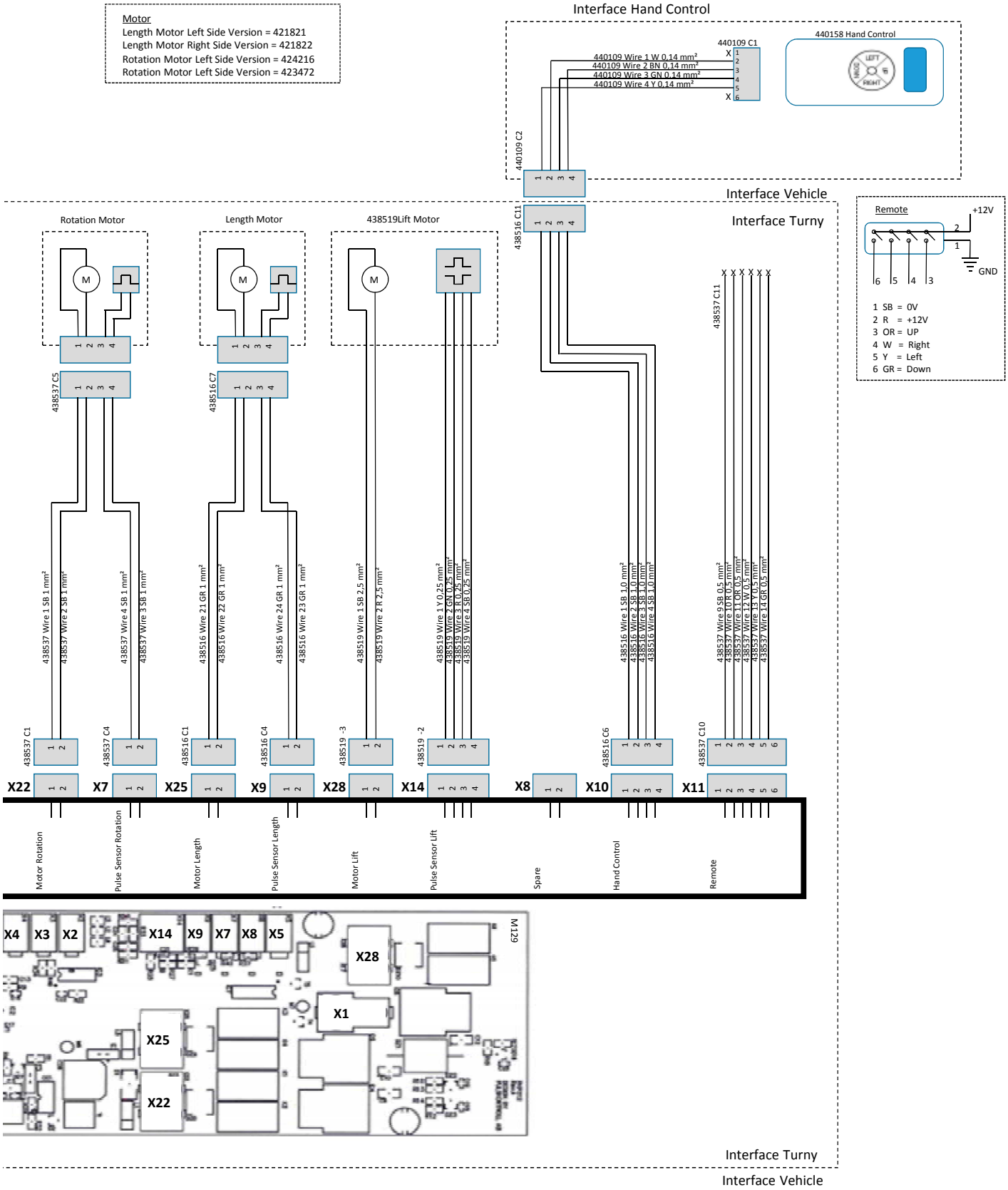
Length with retracted foot rest	70.3 cm
Width	54.2 cm
Swivel increments	0-113°
Installation height, up to seat attachment	16.3 cm
Lift height	39 cm
Lengthwise movement	41 cm

Product weight	84 kg
Weight capacity*	180 kg
Max power consumption	14 A
Power consumption at rest	≈ 0.8 mA
Fuse	15A
Power requirements	12V

** Weight capacity refers to the total weight of the seat, its accessories and the user.*

Wiring diagram Turny Evo




Motor
Length Motor Left Side Version = 421821
Length Motor Right Side Version = 421822
Rotation Motor Left Side Version = 424216
Rotation Motor Left Side Version = 423472
Interface Hand Control
440109 C1
440158 Hand Control
440109 Wire 1 W 0,14 mm²
440109 Wire 2 BN 0,14 mm²
440109 Wire 3 GN 0,14 mm²
440109 Wire 4 Y 0,14 mm²
440109 C2
Interface Vehicle
Interface Turny
Remote
+12V
GND
1 SB = 0V
2 R = +12V
3 OR = UP
4 W = Right
5 Y = Left
6 GR = Down
Rotation Motor
Length Motor
438519Lift Motor
438516 C11
438537 C11
438537 C5
438516 C7
438537 Wire 1 SB 1 mm²
438537 Wire 2 SB 1 mm²
438537 Wire 4 SB 1 mm²
438537 Wire 3 SB 1 mm²
438516 Wire 21 GR 1 mm²
438516 Wire 22 GR 1 mm²
438516 Wire 24 GR 1 mm²
438516 Wire 23 GR 1 mm²
438519 Wire 1 SB 2,5 mm²
438519 Wire 2 R 2,5 mm²
438519 Wire 1 Y 0,25 mm²
438519 Wire 2 O 0,25 mm²
438519 Wire 3 BL 0,25 mm²
438519 Wire 4 SB 0,25 mm²
438516 Wire 1 SB 1,0 mm²
438516 Wire 2 SB 1,0 mm²
438516 Wire 3 SB 1,0 mm²
438516 Wire 4 SB 1,0 mm²
438537 Wire 9 SB 0,5 mm²
438537 Wire 10 O 0,5 mm²
438537 Wire 11 OR 0,5 mm²
438537 Wire 12 W 0,5 mm²
438537 Wire 13 Y 0,5 mm²
438537 Wire 14 GR 0,5 mm²
438537 C1
438537 C4
438516 C1
438516 C4
438519 -3
438519 -2
438516 C6
438537 C10
X22
X7
X25
X9
X28
X14
X8
X10
X11
Motor Rotation
Pulse Sensor Rotation
Motor Length
Pulse Sensor Length
Motor Lift
Pulse Sensor Lift
Spare
Hand Control
Remote
X4
X3
X2
X14
X9
X7
X8
X5
X28
X1
X25
X22
M129
Interface Turny
Interface Vehicle

Accredited by SWEDAC as testing laboratory in accordance with ISO/IEC 17025:2005
Quality system certified in accordance with ISO 9001:2008

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